Rev. 1, 5/18/05

GWS 1-03 – Welding and Brazing Material Procurement & Control Attachment 5, Filler Material Procurement Required Tests

See: Notes at bottom of page

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AWS Spec	Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character-istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
AWS 5.1	Covered Solid and Metal Cored (Composite) Electrodes for SMAW	X	X	X	X	X*					H4	* Low Hydrogen Electrodes only
AWS 5.2	Solid and Composite Rods for OFW	Х										
AWS 5.3	Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Х										
AWS 5.4	Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Х										
AWS 5.5	Covered Solid and Metal Cored (Composite) Electrodes for SMAW	X	Х	Х	Х	X*					H4	* Low Hydrogen Electrodes only
AWS 5.6	Covered Solid and Metal Cored (Composite) Electrodes for SMAW	X			Х							

AWS Spec	Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character- istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
AWS 5.7	Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	X										
AWS 5.8	Bare Brazing and Braze Welding Filler Materials	Х										
	Vacuum Grade Brazing Fillers	Х						Х				
	Brazing Metal Powders	Х							Х			
AWS 5.9	Bare Solid and Metal Cored (Composite) Electrodes for SAW	х										
	Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	х										

AWS Spec	Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character- istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
AWS 5.10	Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	X			X*					X*		* Soundness for electrodes - Bead-on- plate for rods
	Solid and Composite Rods for OFW	Х								Х		
AWS 5.11	Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Х	Х		Х		Х					
AWS 5.13	Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Х										
	Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	x										
	Solid and Composite Rods for OFW	Х										

AWS Spec	Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character- istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
AWS	Bare Solid and				` '		,				,	
5.14	Metal Cored											
	(Composite Rods											
	and Electrodes for											
	GTAW, PAW, GMAW, and EGW	Х										
AWS	Covered Solid and											
5.15	Metal Cored											
	(Composite)											
	Electrodes for											
	SMAW	Х										
	Flux Cored											
	Electrodes for FCAW and ESW	X										
	Solid or Metal	^										
	Cored Electrodes											
	- Flux											
	Combinations for											
	SAW and ESW	Χ										
	Solid and											
	Composite Rods											
A)A/C	for OFW	Х										
AWS 5.16	Bare Solid and Metal Cored											
5.16	(Composite Rods											
	and Electrodes for											
	GTAW, PAW,											
	GMAW, and EGW	Х										

Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character-istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
Bare Solid and Metal Cored (Composite) Electrodes for				(**************************************	55	,	19339			, 36	
SAW Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW	X	X	X	X							
Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	X	Х		Х							
Solid and Composite Rods for OFW	Х										
Flux Cored Electrodes for FCAW and ESW	Х	Х	Х	Х							
Covered Solid and Metal Cored (Composite) Electrodes for SMAW											
	Metal Cored (Composite) Electrodes for SAW Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW Solid and Composite Rods for OFW Flux Cored Electrodes for FCAW and ESW Covered Solid and Metal Cored (Composite) Electrodes for	Product Type Bare Solid and Metal Cored (Composite) Electrodes for SAW Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW Solid and Composite Rods for OFW X Flux Cored Electrodes for FCAW and ESW X Solid and Composite Rods for OFW X Solid and Composite Rods for OFW X Flux Cored Electrodes for FCAW and ESW X Covered Solid and Metal Cored (Composite) Electrodes for	Product Type Bare Solid and Metal Cored (Composite) Electrodes for SAW X Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW X Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW X Flux Cored Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW X Flux Cored Electrodes for FCAW and ESW X Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Product Type Bare Solid and Metal Cored (Composite) Electrodes for SAW X Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW X Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW X Flux Cored Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW X Flux Cored Electrodes for FCAW and ESW X Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Product Type Bare Solid and Metal Cored (Composite) Electrodes for SAW X Solid or Metal Cored (Combinations for SAW and ESW X Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW X Flux Cored Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW X Flux Cored (Composite Rods for FCAW and ESW X Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Product Type Bare Solid and Metal Cored (Composite) Electrodes for SAW X Solid or Metal Cored (Combinations for SAW and ESW X Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW X Flux Cored Electrodes AX Solid and Composite Rods AX Solid and Composite Rods AX Solid and Composite Rods AX Flux Cored Electrodes for FCAW and ESW X Flux Cored Electrodes for SMAW AX Flux Cored Electrodes for FCAW and ESW X Electrodes for FCAW and ESW X Electrodes for SMAW Solid Electrodes for FCAW and ESW X Electrodes for SMAW	Actual Chem Analysis Tensile Impact Test (Face, side, or both) Bare Solid and Metal Cored (Composite) Electrodes - Flux Combinations for SAW and ESW X Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW X Solid and Composite Rods for OFW Flux Cored Electrodes for FCAW and ESW X Solid and Composite Rods for OFW X Flux Cored Electrodes for FCAW and ESW X Solid and Composite Rods for FCAW and ESW X Covered Solid and Metal Cored (Composite) Electrodes for SMAW	Actual Chem Analysis Tensile Impact Test (X-ray) Moisture both) Froduct Type Bare Solid and Metal Cored (Composite) Electrodes for SAW X Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW X Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW X Flux Cored Electrodes for Composite Rods for OFW X Flux Cored Electrodes for FCAW and ESW X Electrodes for SAW and ESW X Flux Cored Electrodes for FCAW and ESW X Electrodes for FCAW and ESW X Electrodes for SAW AW Electrodes for SAW Electro	Actual Chem Analysis Tensile Impact Test (X-ray) Moist- (V-ray) with the sis of the side o	Actual Chem Analysis Tensile Impact Test (X-ray) Moist ure oboth) Bare Solid and Metal Cored (Composite) Electrodes for SAW and ESW AMW, and ESW Composite Rods and Electrodes for GTAW, PAW, GMAW, and ESW AMW, and	Actual Chem Analy- sis Tensile Bare Solid and Metal Cored (Composite Palux Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW Solid and Composite Rods for OFFW FLAX OCCUMENTAL SOLID And Composite Rods for OFFW Solid and Cored (Composite Plactordes for GTAW and ESW X X X X X X X X X X X X X X X X X X X

AWS Spec	Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character- istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
AWS 5.21 (cont)	Bare Solid and Metal Cored (Composite Rods											
(oont)	and Electrodes for GTAW, PAW, GMAW, and EGW	X										
	Solid and Composite Rods for OFW	X										
AWS 5.22	Flux Cored Electrodes for FCAW and ESW	Х										
AWS 5.23	Bare Solid and Metal Cored (Composite) Electrodes for SAW	X										
	Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW	X	Х	Х	Х							
AWS 5.24	Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	Х										

AWS Spec	Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character- istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
AWS 5.25	Solid or Metal Cored Electrodes - Flux Combinations for	.,	Х	Х	Х							
	SAW and ESW Solid or Metal Cored Electrodes - Flux Combinations for SAW and ESW	X	Х	X	X							
AWS 5.26	Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	x	Х	Х	Х							
	Flux Cored Electrodes for FCAW and ESW	Х	Х	Х	Х							
AWS 5.27	Solid and Composite Rods for OFW	Х										
AWS 5.28	Bare Solid and Metal Cored (Composite Rods and Electrodes for GTAW, PAW, GMAW, and EGW	X	Х		Х							

GWS 1-03 – Welding and Brazing Material Procurement & Control

Attachment 5, Filler Material Procurement Required Tests

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AWS Spec	Product Type	Actual Chem Analy- sis	Tensile	Impact Test	Sound -ness (X-ray)	Moist- ure	Bend (face, side, or both)	Spattering character- istics	Sieve analy- sis	Bead -on- plate test	Supple- mental Designa- tion for Diffusible Hydrogen	Comments
AWS	Flux Cored		Χ	Χ	Х							
5.29	Electrodes for											
	FCAW and ESW	Χ										
AWS	Consumable											
5.30	Inserts	X										

Notes:

- a). Tests called for in this table shall be preformed only when required by the applicable AWS specification for the particular classification involved.
- b). Test shall be performed in the manner prescribed by the applicable specification.
- c). Testing to one polarity shall be adequate.